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ABSTRACT

This manual contains materials that business teachers can use to teach their students decision-making and problem-solving skills. Each of the five sections can be used individually or in sequence. The following topics are covered: decision making; approaches to problem solving; everyday life problem solving; creative problem solving; and business problem solving. Most sections contain handout material delineating recommended processes, model exercises, techniques useful to each process, and ideas for practicing the techniques. A prefactory section called "Notes to the Teacher" discusses learning objectives, sources of decisions to make or problems to solve, and keys to success. A rationale for teaching decision making and problem solving is also provided, and a 25-item bibliography is included. (KC)

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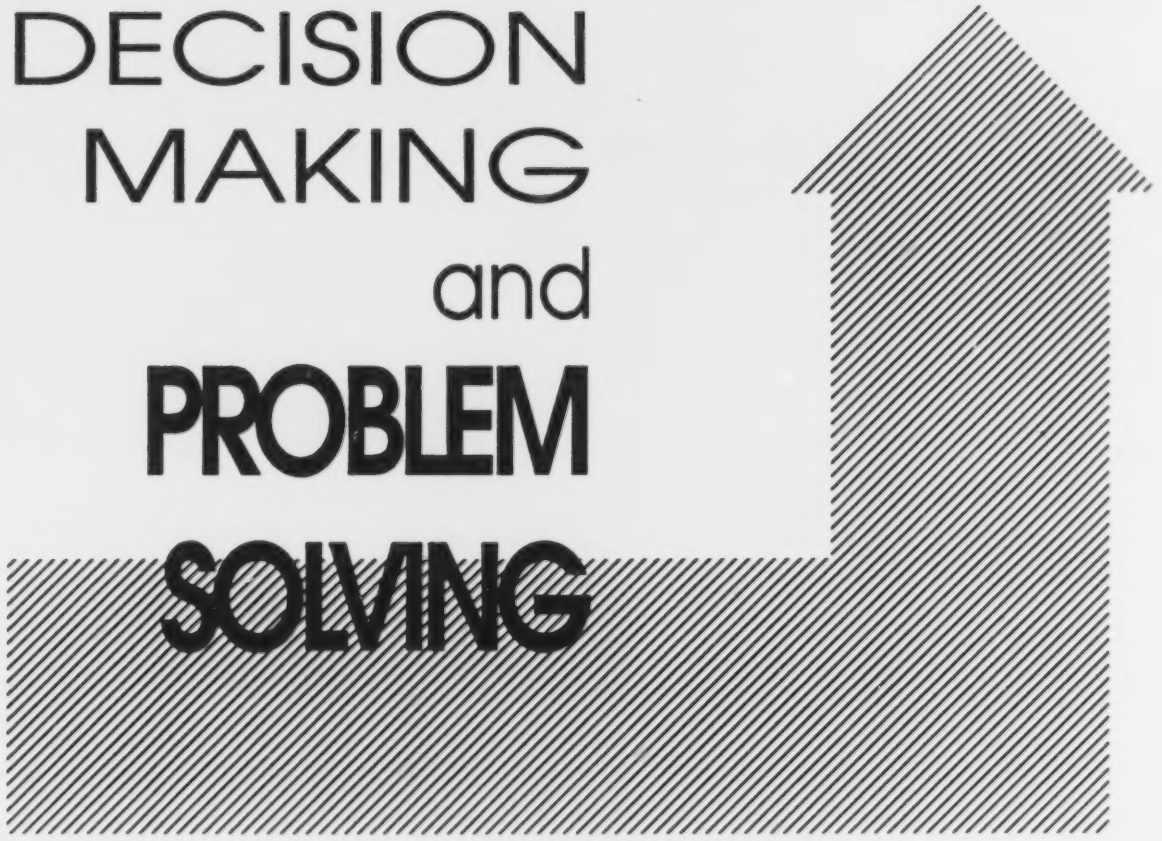
DECISION MAKING and PROBLEM SOLVING



a resource manual for Business Educators

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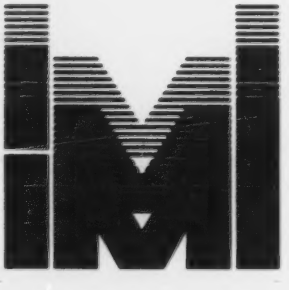

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a resouce manual for Business Educators

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NOTES TO THE TEACHER

In the last few years, employers have frequently lamented the fact that today's graduates lack decision-making and problem-solving skills. They have also been quick to point out that graduates often lack the ability to work cooperatively with others as effective members of a team. The purpose of this manual is to provide students in any program an opportunity to develop these skills.

This manual has been divided into five sections. Each section can be used individually or in sequence. The five sections cover decision making, approaches to problem solving, everyday life problem solving, creative problem solving, and business problem solving. Most sections contain handout material delineating recommended processes, model exercises, techniques useful to each process, and ideas for practicing the techniques.

Learning Objectives

When using these materials, student performance evaluations should be based on ability to apply the recommended process for decision making and/or problem solving. A variety of resolutions are acceptable so long as the student has applied the correct process. Consequently, to avoid limiting students' thinking, no "right answers" appear in this manual. Checklists at the end of each section are provided to assist with the evaluation process.

It is highly recommended that students work in groups, when appropriate, to apply the recommended processes. While in groups, students should be assigned specific responsibilities involved in the total process to assure that all group members contribute to the success of the activity.

Some appropriate student objectives might include:

1. *The student will be able to demonstrate knowledge of decision-making and problem-solving techniques and how to apply these techniques to aid in solving everyday life problems, creative problems, and business problems similar to those encountered on the job.*

2. *Given a simulated problem situation, the student will be able to apply the appropriate decision-making or problem-solving techniques.*

3. *The student will be able to actively participate in the process of making a decision or solving a problem with the assistance of a partner or as a functioning member of a group of three to five members.*

Sources of Decisions to Make or Problems to Solve

Students learn best when activities have real meaning to them in their current world. Therefore, model problems and exercises have value in learning good techniques, but the ability of the student to internalize and transfer these processes is dependent upon their ability to apply them to real life experiences on a regular basis. Choosing appropriate opportunities for applying the decision-making or problem-solving techniques depends upon their having the opportunity for immediate application of the knowledge or skill in solving realistic problems in the classroom, rather than simply being required to learn skills for future use. Some suggested sources of problems include the following:

1. *Allow students to make decisions regarding classroom rules and regulations. The teacher has the right to develop or approve the criteria applied to assure that the criteria falls within acceptable limits of classroom behavior as prescribed by school policy.*

2. *Allow students to solve classroom problems that are preventing the class from functioning as it should. If personalities are involved, writing a case study with fictitious names can assist in dealing with delicate issues.*

3. *Have students assume different roles when practicing the application of decision-making or problem-solving techniques.*

    a. *Family roles: (mother, father, sister, brother, etc.) to make an appropriate family decision such as where to go on a vacation, what car to buy, or where to place the newly-purchased television set*

    b. *Classroom roles: (teacher, cooperative student, uncooperative student, principal, guest speaker, etc.) to solve a classroom problem such as getting all members to contribute when working on a group project, meeting homework deadlines, or behaving appropriately when a guest is present*

    c. *Job-related roles: (employer, student, supervisor, etc.) to solve a case study describing a problem the teacher/coordinator has encountered in current or past cooperative work situations*

4. *Allow students to deposit descriptions of "problems to solve" in a shoe box over a period of time. The teacher can then prepare written problem statements based on these "real" problems.*

5. *The teacher can accumulate problem statements of real problems encountered by students in the classroom or on the job. These statements can be placed in a jar for individual students or a group of students to draw from in a classroom problem-solving session.*

Keys to Success

1. *Remember, defining the problem can be difficult. Therefore, this step should be practiced in isolation until students are comfortable with developing a problem statement. Sometimes complex problems may have a main problem with several sub-problems. These complex problems should not be used initially when students are learning a new process.*

2. *It is important that students be able to gather needed information to solve problems. Therefore, teachers should plan to have the necessary reference materials available in the classroom or allow enough time for students to gather information outside the classroom.*

3. *Don't forget that creating a computer database can be an effective means of recording, classifying, or sorting information gathered by students to aid in making a decision or solving a problem. Also, a computer-generated spreadsheet can be an effective tool for weighing applied criteria in a decision-making matrix.*

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Why Decision Making and Problem Solving?

In a summary of research conducted by the American Society for Training and Development and the U.S. Department of Labor, Workplace Basics: The Skills Employers Want, the following checklist of "basics" desired by employers was developed.

- ☐ Learning to Learn
- ☐ 3 R's (Reading, Writing, Computation)
- ☑ Communication: Listening and Oral Communication
- ☑ Creative Thinking/ Problem Solving
- ☐ Self-Esteem/Goal Setting-Motivation/ Personal and Career Development
- ☑ Group Effectiveness: Interpersonal/Negotiation/Teamwork Skills
- ☐ Organizational Effectiveness/ Leadership

The decision-making/problem-solving techniques and strategies contained in this resource manual may relate to all the workplace basics, but specifically addresses the ones checked. For example, workers communicate with each other about procedures and problems and they relay information to and receive it from customers. In these problem-solving strategies, students practice listening skills to gather information and oral communication skills when "selling" their solution to others.

Secondly, an organization's ability to achieve its strategic objectives often depends on the problem-solving and creative-thinking skills of its workforce. After practicing the decision-making and everyday problem-solving strategies, the creative and business problem-solving strategies are designed to expand thinking and to force one to consider a variety of options and viewpoints. Efficient problem solvers also understand that

enhancing and refining their individual problem-solving skills will help them to function more effectively in a group problem-solving setting.

Thirdly, whenever people work together, successful interaction depends upon effective interpersonal skills, focused negotiation, and a sense of group purpose. The quality of these three factors defines and controls working relationships. Recommendations are made throughout the problem-solving strategies on ways to structure group decision making as opposed to an individual working alone. One of the main characteristics of good problem solvers is the recognition that help is always available from others. Few major problems are solved in isolation. The complexity of problems in today's world require the expertise and viewpoints of a number of people.

If the solution to a problem is clear, the answer is simple. But often the solution to a problem is not clear. That is when a systematic process of problem solving is needed.

Why is it Necessary to Understand the Process of Problem Solving?

There are other reasons why it is necessary to understand the process of problem solving. Some of those are:

- *Effective Time Management*

Learning to systematically solve problems will help individuals learn to effectively manage their time. If problem solvers do not spend enough time gathering facts concerning the problem situation, they will not have complete information about the situation. Spending too much time may result in the problem solver getting bogged down with details. There may not be enough time left over to test the solution completely.

- *Effective Stress Management*

Haphazard attempts at problem-solving create feelings of stress. Those that can apply an effective problem-solving method to problems will experience less feelings of stress in an occupational setting and more positive feelings about their abilities.

The ability to make decisions and solve problems not only serves us well in our everyday life, but also supports making a smooth transition from school to work. Students equipped with these abilities will do well when competing for jobs in the workplace, and will require less additional training once there.

SECTION I: DECISION MAKING

DECISION MAKING

Decisions, decisions, decisions! Everyday each of us must make decisions of one kind or another. A child may struggle with decisions like ,"Which toy should I play with now? Should I tell Mom I broke that cup? Which TV show should I watch?" Young adults may ask themselves, "What should I do after school today? Which classes should I take next year? If my friends smoke, should I?" Older adults must contend with far-reaching decisions such as, "Should I buy a house or rent one? Which car should I buy? Where should I go on vacation this year? Which job should I take?"

Sometimes we try to sidestep making decisions or hope that the reason for having to make one will somehow magically disappear if we just wait it out. Instead of making life easier, indecision can ultimately destroy our ability to be successful in everyday life or in the workplace. While standing by and struggling over which action to take, the cost of inaction mounts up. When making a necessary decision is put off, a price is paid in terms of lost time, lack of credibility, and slow-down of production in the workplace.

Once we accept that living a satisfying and productive life involves making responsible decisions, we must also understand some basic principles of decision making:

- *Decision making involves analyzing several alternatives and then choosing one. It is seldom a choice between absolute right and absolute wrong.*
- *A set of standards, or criteria, is established to help analyze the possible alternatives. The alternative that is rated the highest based on the criteria*

is usually the one that is chosen.

- *In many instances the person responsible for making the decision must "sell" it to others such as parents, friends, teachers, or employers.*
- *When a decision is made, it must be implemented.*
- *Good decision makers persevere. Once a decision is made and implemented, the entire process is then reviewed. The criteria used to evaluate the alternatives involved in the first decision must be monitored and adjusted for any subsequent decisions that may be required.*

The decision-making process is a life skill that can help you deal with problems no matter how simple or complex they may be. Applying decision-making skills enables you to:

- *Resist pressures from others that could interfere with what is right for you.*
- *Take control of your life by making your own choices rather than letting circumstances dictate choices for you.*
- *Make choices that you are proud of. Pride in accomplishment boosts your self-esteem and increases feelings of confidence.*

Once you master the steps of decision making, you will not always make the right decision. Nobody does! But by learning to apply the steps, you greatly increase the likelihood of consistently making good decisions. By monitoring and adjusting the steps in the process, you will get better and better at making decisions that are just right for you!

Personal values or beliefs greatly influence decision making. Having a clear picture of your values helps when it comes to making decisions. Think about the things you value most:

- *honesty*
- *friendship*
- *independence*
- *learning*
- *winning respect*
- *having fun*
- *image*
- *saving money*
- *success*
- *teamwork*

Take time to clarify your values before applying the decision-making process. By doing so you will be more likely to identify alternatives that are realistic and do not conflict with your beliefs.

THE DECISION-MAKING PROCESS

The decision-making process can be used when several alternatives are readily available and apparent, and a process of systematically selecting from among them is needed. The eight steps of the process are:

1. *Determine the goal.*
2. *Identify and select alternatives.*
3. *Develop criteria.*
4. *Prioritize the criteria.*
5. *Weigh the alternatives.*
6. *Make the decision.*
7. *"Sell" and implement your decision.*
8. *Evaluate the decision-making process.*

THE STEPS OF THE DECISION-MAKING PROCESS

Determine the goal. *What is the desired outcome? The goal should be stated as specifically as possible, such as:*

- *Where to get a part-time job.*
- *Which college to attend*
- *Which car to buy*
- *Which book to read for a report*

When making a long-term, far-reaching decision, it is wise to break it down into smaller parts, and then deal with just one part at a time. For example, when deciding on

a career, you should look at various aspects like what kinds of things you enjoy doing, how important a big salary is to you, whether you enjoy working alone or prefer to be part of a team, whether or not you want to live in a large metropolitan area, and the projected availability of jobs in that particular career.

Identify and select alternatives. *What are the alternatives for achieving the goal? In this information-gathering step, several alternatives are researched to eliminate those that are obviously unworkable and identify several that seem promising. Sometimes this step can be carried out by the single individual making the decision. Alternatives can also be identified through a group brainstorming session.*

The process may be simple, or it may require some time to investigate and weigh the possible alternatives. It is important to examine as many alternatives as possible. Unless you have considered all of the available options, you have approached the decision with a closed mind.

When making decisions that affect other people, you should seek their input. Differing views will often stimulate the imagination or shed some light on alternative perceptions. By considering the thoughts and feelings of others, you will be more likely to generate alternatives that are equitable and have a better chance of being accepted.

Develop criteria. *What kind of criteria should be used to help you decide between the alternatives? All decision makers apply a set of criteria to help them reach a decision. The criteria you select will be influenced by your personal values or the values of the organization in which you work. When establishing criteria you may choose from such factors as cost, utility, user, constraints, practicality, aesthetics, emotional appeal, who*

is affected, and so forth. It is important to keep the list of criteria to a manageable number, however. Refine your list to include three to five, if possible. Criteria is then ranked in order of most to least important.

Weigh alternatives. *How do the alternatives compare? Now that you have determined the alternatives and the criteria to be used in judging them, apply the criteria to each alternative to see how it measures up in comparison to the others. One method of accomplishing this step is to develop a decision-making matrix to help you rank the alternatives based on the criteria you've selected. (See illustration at the end of this section.)*

Make the decision. *Which is the best alternative? At this point you must choose the alternative that judgment and experience tell you offers the best chance for success. It is permissible to adjust your choice if your "heart" tells you that the alternative that best measures up to the criteria is not really what you wish to do. Remember that you should be pleased with your decision and feel good about it. Your enthusiasm and positive feelings will support your ability to implement the decision now that it is made.*

It is equally important not to allow your negative emotions to get in the way. Making choices when you are angry, hurt, depressed, or otherwise upset can be a big mistake. Flexibility and a willingness to compromise is another aspect of making mature decisions. If the car of your dreams is just too expensive, it may be better to buy a more affordable car than no car at all.

"Sell" and implement the decision. *How will others react and respond to this decision? How do we all make it work? Once you've made your decision, let everyone*

concerned know what it is. Make sure they understand it completely, and answer any questions that may come up. If called upon to defend your decision, you should be prepared to discuss how you arrived at the alternatives, how the criteria was selected, and why the chosen alternative is the best one.

Then convert your decision to action! Don't procrastinate. If too much time passes, someone else may make up your mind for you. If time runs out, you may be forced to abandon your original decision and make a new one on the spur of the moment. Don't let others change your mind for emotional reasons such as "Nobody's doing <u>that</u> anymore!" or "if you were my friend, you'd . . ."

Evaluate the decision-making process. *Does the chosen alternative work? Why or why not? Have the criteria changed since the decision was made? Remember that you learn from each decision how to make a better one the next time. With practice, you also learn how to foresee difficulties, avoid mistakes, and minimize the length of time it takes to make sound decisions.*

USING A DECISION-MAKING MATRIX

To develop and use a decision-making matrix, complete the following steps:

1. *Place the available alternatives on the matrix and identify the criteria you intend to apply to the available alternatives.*
2. *For each alternative, apply a score to assist you in determining the rank order of the available alternatives. (3 = highest rank; 2 = middle rank; 1 = lowest rank)*
3. *Add up the scores to determine which alternative has the highest score.*

4. *Based on your reaction to the alternative ranked the highest, decide whether or not you are happy with the decision. If not, add, delete, or revise criteria and repeat the process until you have a decision that you can live with.*

NOTE: The criteria selection will vary with the individual constructing the matrix. It can be mentally evaluated or may require a written analysis.

What follows is an example of the decision-making matrix in use:

A high school student has three part-time job offers and must decide which one to take. In choosing where to work, the student considers the location of the business, the average hours of work available per week, the opportunity for advancement, and how much the job pays.

Criteria	Job A	Job B	Job C
Location of the business	2	1	3
Hours available per week	3	2	1
Opportunity for advancement	2	1	3
Wages	3	2	1
Total	10	6	8

EXERCISES IN APPLYING THE DECISION-MAKING PROCESS

Apply the decision-making process to the following exercises. You may use the given criteria or develop your own. Remember to use the decision-making matrix when applicable.

1. *Eric, a high school senior, has received scholarship offers from three colleges and must decide which one to accept. Eric might apply the following criteria to select the college he will attend:*

   - *location*
   - *cost*
   - *programs offered*
   - *opportunities for participating in sports*

2. *Kristy is shopping for a new car. She has developed a list of five cars she likes and are within her price range. Kristy is ready to decide which car to buy. The criteria Kristy is planning to use include:*

   - *safety features*
   - *style and appearance*
   - *gas mileage*
   - *length of warranty*
   - *how much fun the car is to drive*

3. *Jeff and Jani have a date to attend a formal dance. Jeff has shopped around and found three acceptable tuxedos and must decide on which one to rent. Jani is trying to decide whether to make her dress, buy one, or rent one. Criteria for Jeff's decision might include price, color, and style. Jani's decision may involve additional factors.*

4. *Check newspapers or catalogs to find three or four examples of an item you might be interested in buying. Determine the criteria for selection, and apply the decision-making process.*

5. *You have accepted the position of acting supervisor of your department while your supervisor is on leave of absence. An employee, Jon Doe, has become uncooperative and often causes problems with other employees within the department even though he appears to be satisfactorily completing his work. Department members are starting to take sides and morale has hit an all time low. Some alternatives include firing Jon, resigning as acting supervisor, leaving the company, or developing a plan involving all department employees on how to get the department's work completed in the best way possible. There may be other alternatives you wish to consider.*

6. *Your department is located in a large, open area. Consideration is being given to purchasing partitions and room dividers so that each worker will have his/her own individual cubicle. Along with two other members of the department, develop at least four criteria to use to help you decide whether or not you support the purchase of the partitions and room dividers and apply the decision-making process.*

EVALUATION SHEET

Decision-Making Checklist

Directions: *Place an "X" in the appropriate box: Not Applicable, No, Incomplete, or Yes*

The student/group was able to:	N/A	No	Inc.	Yes
1. Determine goal.				
2. Identify and select alternatives.				
3. Develop criteria.				
4. Prioritize criteria.				
5. Weigh alternatives.				
6. Make decision.				
7. Sell and/or implement decision.				
8. Evaluate decision-making process.				

Notes:

All steps should receive either "Yes" or "N/A." Steps receiving otherwise should be repeated until they are satisfactory.

SECTION II: APPROACHES TO PROBLEM SOLVING

APPROACHES TO PROBLEM SOLVING

Problem solving is significantly different from decision making in that alternatives have not yet been identified. Approaches to problem solving vary according to the nature of the problem. For example, the approaches to solving an everyday problem of a personal nature may vary from approaches used to solve business problems or those used in creative problem solving on tests or during problem-solving competitions. Depending upon the circumstances, any one of the following three problem-solving techniques could be useful to students trying to improve their ability to solve problems.

Problem Solving Techniques

Affirmations: *To increase your ability to solve a problem you need to affirm:*

- *that the problem probably has a number of solutions, and that you will be able to identify one of them;*
- *that if you need help, you only have to look for it;*
- *and, most importantly, that you are perfectly capable of solving the problem.*

This "warm up" to problem solving will eliminate the fear that nothing can be done and give the problem solver the confidence needed to continue.

Visualization: *The ability to close your eyes and visualize either the process of solving the problem or the results of having solved the problem is a useful technique that helps you "see" what to do about the problem. The ability to play a video tape in your mind is easier for visual learners, but, with practice, it is possible for all to achieve.*

Self-Talk: *Talk to yourself about the problem. Thinking aloud about the problem clarifies your thinking and helps you identify what's missing to solve the problem. Self-talk can also help your ability to concentrate on solving the problem rather than on the emotions you may be experiencing at the time.*

Perseverance: *If your first solution doesn't work, you must be willing to back up, view the problem in a totally different way, and repeat the process. Your willingness to try again is a very important part of being a good problem solver. It is not unusual for the first solution to fall short, but it should not be considered a failure. Remember, "If at first you don't succeed, try, try again!"*

It is also possible that you may have to re-evaluate what you are trying to achieve. Monitor and adjust your goal so it is achievable given the amount of risk you are willing to take. This process is useful in dealing with everyday life problems in a realistic and practical manner.

Trial and Error: *This technique helps in "getting a feel" for a problem; each trial yields valuable information. Trial and error works best when there are few alternatives available, and if the alternatives are not time-consuming during testing.*

Working Backwards: *This technique involves a change in perspective when stating the problem to a given problem situation. Instead of stating the problem first, try stating the goal (or desired outcome) first and then work back to the present. This method is helpful when you find you are unable to solve the problem by stating the problem first. Working backwards is a method of temporarily distancing yourself from a problem when you have come to a "dead end" and all ideas for approaching the problem*

have been exhausted. For the sake of good time management, it may be best to let the problem "set" while you clear your mind. Once you have rested and had a chance to think things over, you may be able to return to the problem situation with fresh insights. In essence, you are putting the immediate problem "on the back burner" and directing your thoughts and efforts to other activities. The problem situation is still evident; you simply are not directly concentrating on it at the moment.

Types of Problem Solving

In the sections that follow, three specific types of problem-solving areas will be addressed: everyday life problem solving, creative problem solving, and business problem solving. Within each area, unique conditions exist that make various problem-solving strategies more feasible for one area than another. As you explore the three types of problem-solving areas, think about their similarities and differences, and why you would not use exactly the same strategy for all of them.

SECTION III: EVERYDAY LIFE PROBLEM SOLVING

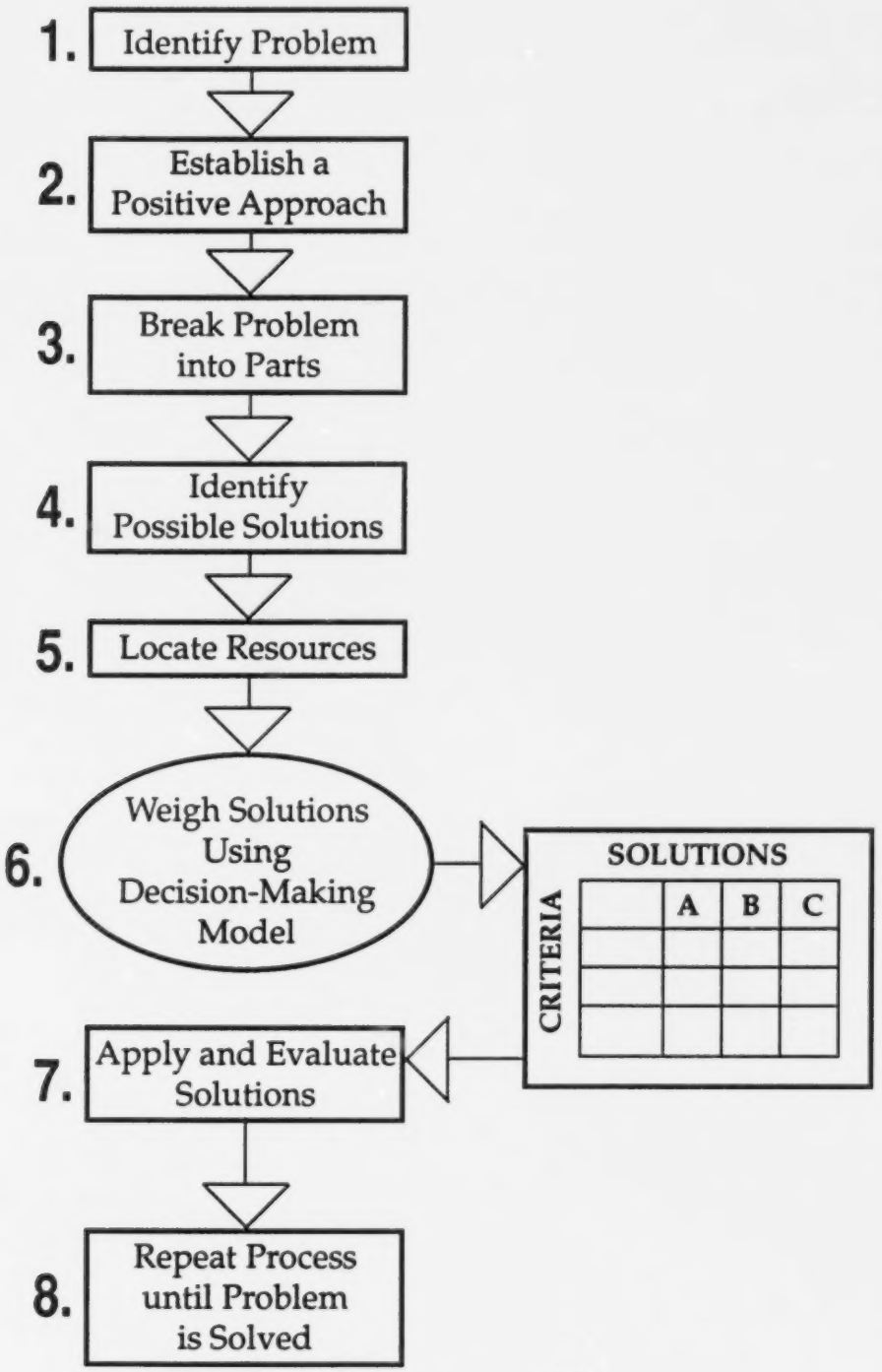
EVERYDAY LIFE PROBLEM SOLVING

The everyday life problem-solving procedure provides a systematic way of attacking the complex or difficult problems encountered in daily living. If alternatives are obvious, the decision-making model is applied. However, if alternatives are not readily available or obvious, the more complex everyday life problem-solving procedure is an option.

Some areas of application for using the everyday life problem-solving procedure are:

- *Survival--food; clothing; shelter*
- *Environment*
- *Safety*
- *Transportation*
- *Recreation and leisure*
- *Health care*
- *Career choice*
- *Family and other relationships*
- *Self-work*
- *Risk-taking*

Everyday Life Problem-Solving Procedure



STEPS IN THE EVERYDAY LIFE PROBLEM-SOLVING PROCEDURE

1. **Identify the problem.** *The first thing to do in solving everyday problems is determine whether or not you really have a problem. If alternatives are readily available, you forego problem solving and simply apply the decision-making model discussed earlier. This approach is easier and a lot faster. You must also decide if the goal is important to you or if you would be just as well off to ignore the problem. Another consideration is to determine whether it is truly your problem or someone else's problem that you are taking on unnecessarily.*

2. **Establish a positive approach.** *It is at this point that the affirmation process is key to success. Using self-talk, affirm that there are no doubt several ways to solve the problem and you are perfectly capable of finding one of them. Affirm that help is readily available if you need it. You should never be afraid to ask for help. Remember that you are willing to help others from time to time, so others should be just as willing to help you.*

3. **Break the problem into parts.** *If you are to be a good problem-solver, learn to simplify a complex problem by breaking it down into smaller parts. This technique enables you find a starting point that makes some sense and then proceed from there. Solving one small problem at a time enables you to make progress toward solving a complex problem without having to tackle it all at one time.*

4. **Identify possible solutions.** *When brainstorming, you can usually identify any number of solutions including some that are not at all realistic. That is why, in the interest of saving time, it is important to restrict your list of possible solutions to*

those that have the highest probability of success. Possible solutions should fit within the range of risk you are willing to take. It is a waste of time to even consider solutions that are not within your realm of capability.

5. **Locate resources.** *For every solution you have identified as a possibility, you should also identify the resources (time, money, materials, etc.) you might need and the necessary actions you may have to take. If needed resources are not readily available or within reason, you should eliminate this solution. When working through this step, remember that you are allowed to ask others for help.*

6. **Weigh solutions using the decision-making model.** *At this point, refer again to the decision-making model. Place your possible solutions on the matrix and then develop the criteria you intend to use to assist you in choosing the solution you believe has the greatest chance for success. The criteria you apply should be directly linked to the amount of risk you are willing to take.*

7. **Apply and evaluate solutions.** *After you apply the chosen solution, you must decide if the problem has been solved. In evaluating this, pay special attention to your level of satisfaction. If the problem is solved but you do not feel good about it, you should seek another solution.*

8. **Repeat the process until the problem is solved.** *If your solution doesn't work you should clear your mind then go back to Step 4 and repeat the process. For this step, it may be useful to have a partner who will listen and offer feedback. Bouncing your ideas off another person can sometimes help you see the problem in a new light. Another useful technique at this stage is to put the problem on hold*

for a while and then come back to it later when you feel rested and able to take a fresh look at it.

Solving everyday problems is an important part of life. If you stop and think about a problem you recently solved, you undoubtedly used some or all of this process. Even though you may not have written anything down, you mentally applied some of these steps. This is the ultimate goal of any problem-solving process, for it to become a mental process that is easily applied. If everyday problem solving is difficult for you, try writing down each step until you become comfortable with the process.

DON'T LET THESE BAD HABITS GET YOU DOWN WHEN SOLVING PROBLEMS!

- *Reading too fast or failing to listen, which may cause you to miss the facts*
- *Failing to check the accuracy of your work*
- *Jumping to conclusions before you understand the whole problem*
- *Failing to follow the recommended steps of the problem-solving process*
- *Skipping a step of the problem-solving process*
- *Giving up without even trying to solve the problem*
- *Not asking for help when it is needed*
- *Failing to think aloud when you are at an impasse*

AN EXAMPLE OF APPLYING THE EVERYDAY PROBLEM-SOLVING PROCESS

Problem: *You go back to sleep after your alarm goes off and get up twenty minutes late. After rushing to get ready and grabbing a doughnut on the way out the door, you realize that you have just missed your bus.*

Step 1: Identify the problem. *You must get to school today because you are playing in a basketball game after school. The rules and regulations of the school district state that you cannot participate in a competitive event after school if you are absent from classes.*

Step 2: Establish a positive approach. *Tell yourself that you are perfectly capable of finding a solution to this problem and you cannot afford to waste time. Tell yourself to calm down and talk aloud about the problem if you need to do so to improve your ability to concentrate.*

Step 3: Break the problem into parts. *First, you must determine an alternative means of transportation. Second, you may have to deal with a tardy if you are late.*

Step 4: Identify possible solutions. *(1) Mom/Dad/neighbor/friend might drop you off on their way to work. (2) You could cut through the backyard and meet the bus at a later stop. (3) You could ask to borrow the family car and drive to school. (4) You could just stay home and forget the whole thing.*

Step 5: Locate resources. *Mom is still at home. Dad has already left for work. Talk to Mom and see if she needs the car today or if she could ride to work with someone else so that you can use the car. Check your watch to determine the probability of making it to the later stop. Think about other neighbors or friends who might be able to help.*

Step 6: Weigh solutions using decision-making model. *Important criteria in weighing these solutions would include time, risk, availability of resources (car, ride, etc.).*

Possible Solutions	*Mom*	*Next bus stop*	*Borrow Car*	*Stay Home*
Time	*4*	*3*	*2*	*1*
Availability	*3*	*4*	*2*	*1*
Least risk of getting in trouble	*3*	*4*	*2*	*1*
Total	*10*	*11*	*6*	*3*

4 = highest chance of success; 3 = moderate chance of success;
2 = questionable chance of success; 1 = no chance of success

Step 7: Apply and evaluate solutions. *At this point you would run to the next stop to see if you could catch the bus. If you cannot catch the bus, your second choice would be to run back home and try to catch Mom.*

Step 8: Repeat process until the problem is solved. *If Mom is gone, you need to repeat the process again beginning with Step 4. The process becomes more complex as the solutions become more difficult to generate. Extra creativity may be required at this point. You should seek the help of another person if necessary.*

EXERCISES IN SOLVING EVERYDAY PROBLEMS

Apply the everyday problem-solving process to the following problems:

1. *When you get to your car on the parking lot of a shopping mall, you find that you have locked your keys in the car. What do you do?*
2. *You run home at lunch to pick up a reference book you need. When you arrive, you drop your keys on the kitchen counter, go to your room and quickly pick up the book, then run out the door which is set to lock as it closes. Now you are locked out of the house. No one is home and you have no car keys. What do you do?*
3. *You have just agreed to an informal date for this evening with someone you have been wanting to go out with for a long time. When you get home to change clothes, you remember that tonight is the night your grandparents are coming to dinner to celebrate their wedding anniversary. Your mother has prepared a special meal and expects all of the family to be present. What do you do?*
4. *You have been invited to try out for a cheerleader position/football team position/ or club officer. All of these activities require some extra spending money for uniforms, trips, meals away from home, etc. Money is a little tight right now in your family. What will you do?*
5. *You are driving in the passing lane on an interstate highway when your engine suddenly stops. You are able to bring the car to a stop in the median. What do you do?*

6. *As a junior, you are registering for next year's classes and have to decide between staying in the school orchestra and taking an advanced English course that would be useful to you in college. You have studied the clarinet since fifth grade and really enjoy playing in the orchestra. Which course do you take?*

7. *You have been asked to plan a social event for your club to take place on a week night that would appeal to most club members. What would you recommend?*

EVALUATION SHEET

Everyday Problem-Solving Checklist

Directions: *Place an "X" in the appropriate box: Not Applicable, No, Incomplete, or Yes*

The student/group was able to:	N/A	No	Inc.	Yes
1. Identify the problem.				
2. Establish a positive approach.				
3. Break the problem into parts.				
4. Identify possible solutions.				
5. Locate resources.				
6. Weigh solutions using decision-making model.				
7. Apply and evaluate solutions.				
8. Repeat process until problem is solved.				

Notes:

All steps should receive either "Yes" or "N/A." Steps receiving otherwise should be repeated until they are satisfactory.

SECTION IV: CREATIVE PROBLEM SOLVING

APPLICATIONS FOR CREATIVE PROBLEM SOLVING

Futuristic thinking: *You don't want to be bound by the way you've always done things nor do you want to be limited by today's methods, materials, procedures, and people.*

Trends: *The process of creative problem solving allows for looking at the past and present and attempting to project trends for the future.*

Leadership development: *You want to be given an opportunity to make decisions that will affect other people and to sell them on your ideas.*

Group dynamics: *The creative problem-solving process lends itself well to working with other individuals or a small group of people who may then sell their idea(s) to a larger group.*

Values clarification: *When establishing the criteria to be applied to possible solutions, values of the individual can be identified and defined.*

Perseverance: *The creative problem-solving process requires more perseverance because the nature of being creative requires going beyond constraints that typically limit possible solutions.*

Brainstorming: *This is a general term for a wide-ranging group discussion with a specific purpose.*

1. *The leader has some experience guiding groups and doesn't dominate the discussion.*

2. *People with first-hand experience and technical experts are both part of the group.*

3. *A blackboard or flip chart is available.*

4. *One person is appointed as writer (or recorder).*

5. *As many ideas are generated by members of the group as possible.*

6. *No idea is criticized or ridiculed.*

7. *Early discussion doesn't get sidetracked on a particular idea.*

CREATIVE PROBLEM-SOLVING PROCEDURE

(adapted from the Future Problem-Solving Competitions)

Step One: *State the facts leading to the problem.*

Who?

What?

When?

Where?

Why?

Step Two: *What is the actual problem? Restate the problem in two or three different ways. Is there more than one problem to solve in order to find the overall solution?*

Step Three: *Brainstorm as many solutions as you can to the problem. Do not reject a single idea.*

Step Four: *Establish criteria for judging the solutions.*

Step Five: *Examine each solution from Step Three and apply your criteria developed in Step Four to each solution. Select the one solution which seems best.*

Step Six: *List all the steps you must take to implement the solution. Include any objects, people, or materials you will need to carry out your plan.*

Step Seven: *Sell the solution to others. Develop a five-minute (or less) presentation to persuade others to "buy" your solution.*

CREATIVE PROBLEM-SOLVING WORKSHEET

Step One: State the facts leading to the problem.

Who: _____

What: _____

When: _____

Where: _____

Why: _____

Step Two: What is the actual problem? (Restate in two or three different ways.)

_____

_____

_____

_____

_____

_____

Is there more than one problem to solve in order to find the overall solution? (List sub-problems.)

_____

_____

_____

_____

_____

_____

Step Three: Brainstorm as many solutions to the problem as you can. (Remember, do not reject a single idea when brainstorming.)

Step Four: Establish criteria for solving the problem. (Ask some questions, for example.) List a minimum of three criteria; maximum is five.

Step Five: Select the one solution which seems best. Examine each solution from Step Three and select only those which meet the criteria developed in Step Four. You may want to use a problem-solving grid:

	Ideas from Step Three			
Criteria from Step Four				

Step Six: List all the steps you must take to implement the solution. Include any objects, people, or material you will need to carry out your plan. You may use the planning sheet that follows if needed:

I am going to solve _____ *problem by* _____.

*The things I need are:*_____

_____

_____

*Problems I might have are:*_____

_____

_____

Step Seven: Sell the solution to others. Outline your presentation. This presentation may be to another individual, a small group, or the entire class.

EXERCISES IN CREATIVE PROBLEM SOLVING

NOTE: These exercises may be done individually, with a partner, or in groups of 3 or 4.

Working With a Partner

When solving problems, two heads are always better than one. One partner should be the problem solver and one should be the listener/questioner. Working with a partner can help you in a number of ways. For example, thinking out loud is the only way another person can monitor your ability to apply the necessary steps to solve a problem. By verbalizing what you are thinking, your partner can detect whether or not you have omitted an important step in the process.

A partner is also useful in helping you clarify your thinking by forcing you to:

- **Be specific:** *A partner can require you to be very specific about what you are thinking. For example, if you were to make the statement, "They won't let me," your partner might ask you to define who "they" are, or might ask you, "What would happen if you did?"*
- **Generate alternatives:** *A partner can expand your thinking by having you think of more than one way to do what you are trying to do. For example, if you were "stuck" on an idea, your partner might provide you with two or three alternate ways of doing something that they themselves have tried or seen others try.*
- **Take responsibility:** *A partner can encourage you to continue to look for ways to solve a problem. A partner can provide the support you need so that you are not working alone in the problem-solving process. A partner*

can also help you affirm that the problem can be solved if you persevere.

Roles for a Group of Three

One is the problem solver, one is the listener/questioner, one is the worksheet recorder. All may participate in brainstorming activity.

Roles for a Group of Four

One is the problem solver, one is the listener/questioner (Role A), one is the listener/questioner (Role B), one is the worksheet recorder. All may participate in brainstorming activity.

Problem 1:

Your FBLA/PBL chapter must raise enough money to send five members to the regional leadership conference, 10 members to the state leadership conference, and three members to the national leadership conference. Determine <u>one</u> fundraising activity to earn enough money to cover all of these expenses (approximately $3,000). The activity should be one that could be accomplished by the 20 members in your chapter.

Problem 2:

Your club must develop one major community service project for the year. Projects in the past have included raking leaves for senior citizens, planting flower bulbs at a nursing home, and cleaning up litter along a designated portion of a local roadway. Determine a project and how it will be carried out. Remember, your chapter is trying to win an award this year so you are striving to come up with an activity that will attract the attention of the judges. The scope of the project should be one that the 20 members of your chapter can handle.

Problem 3:

Your chapter has been invited to develop a display booth for the local Chamber of Commerce's annual Business Fair. Determine the theme of the booth, what will be displayed in the booth, who will set up the booth, who will work in the booth, and who will dismantle it the end of the fair. Remember, you have only 20 chapter members available to help.

Problem 4:

All organizations, including your FBLA/PBL chapter, are required to participated in the annual homecoming parade by designing and constructing a float to be pulled by an automobile or built on the bed of a pickup truck. The theme of this year's parade is "Odyssey 2000." You have a budget of $150 provided by your school. Your chapter has 20 members to help with this project. Decide on the theme of the float, who will design and build it, who will purchase the supplies, who will be riding on it, who will drive the car or pickup, etc. Remember, first prize is the your chapter's goal this year as you are trying to win an award.

Problem 5:

Tradition dictates that your FBLA/PBL chapter must provide a special social event for graduating seniors. In the past this has taken the form of a pizza party. This year, your chapter sponsor wants to develop a creative new event for the seniors. Decide what the event will be and how you will carry out planning and conducting it. You have 20 students in your chapter, but five are seniors who will be honorees, and unable to help with the event.

EVALUATION SHEET

Creative Problem-Solving Checklist

Directions: *Place an "X" in the appropriate box: Not Applicable, No, Incomplete, or Yes*

The student/group was able to:	N/A	No	Inc.	Yes
1. State the facts leading to the problem.				
2. Restate the problem in two or three ways.				
3. Brainstorm solutions.				
4. Establish criteria for judging solutions.				
5. Apply criteria for judging solutions.				
6. Determine steps to implement solution.				
7. Sell solution to others.				

Notes:

All steps should receive either "Yes" or "N/A." Steps receiving otherwise should be repeated until they are satisfactory.

SECTION V: BUSINESS PROBLEM SOLVING

TECHNIQUES FOR PROBLEM SOLVING IN BUSINESS

Business Problem-Solving Terms and Definitions

- **Back burner method:** *A method of problem solving which is characterized by the problem solver setting the generated alternatives aside momentarily, directing their efforts elsewhere and returning to the alternatives at a later time.*
- **Identification:** *To establish the identity of an event or fact.*
- **Documentation:** *The authenticating of procedures which were performed.*
- **Evaluation:** *To determine the significance by careful appraisal; to compare results against original criteria or objectives.*
- **Organization:** *A systematic plan of arrangement.*
- **Prediction:** *Forecasting future events or possible outcomes.*
- **Problem:** *An unsettled question.*
- **Problem situation:** *A state of affairs which is unsettling or confusing.*
- **Problem solving:** *The process of coordinating previous experience, knowledge, and intuition in an attempt to determine a method for resolving a situation whose outcome is not known.*
- **Plan of implementation:** *A method of achieving a goal in a problem situation, chosen by the problem solver.*
- **Trial and error:** *A method of problem solving which is characterized by the problem solver finding the best way to reach the desired solution by trying each generated alternative until one succeeds.*

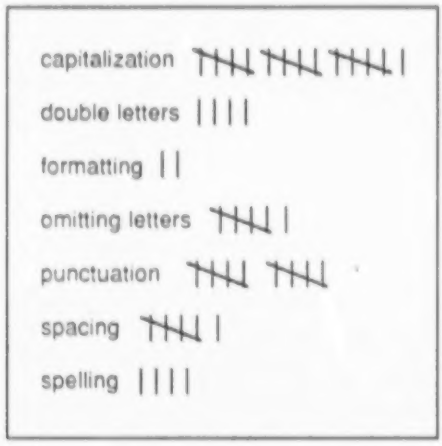
- **Working backwards:** *A method of problem solving which involves a change in perspective in that the new starting point is the original goal.*

DATA COLLECTION

To be effective when solving business problems, it is imperative that you gather as much data as possible while facilitating the free exchange of opinions and ideas along the way. The kinds of data and the methods of collecting and analyzing it will vary with the complexity of the problem. Sources of data include questionnaires, interviews, observations, files, records, and electronic databases. Depending on the nature of the data, it can be recorded in a number of ways. A tally sheet or frequency distribution is appropriate when just the number of occurrences is to be recorded whereas an electronic database may be the best choice for recording individual occurrences having a number of characteristics.

Tally Sheet

A tally sheet is a way to keep track of the how many times something occurs, but does not provide information about why it occurs. For example, a tally sheet to analyze the most frequent keyboarding errors made by a clerk in the word processing department appears below:



Tally Sheet

A frequency distribution table provides a framework to tally the number of occurrences by showing total number of occurrences and the percentage of frequency of each occurrence. The information generated by the use of a frequency distribution table can be easily transferred to a pie chart or bar chart.

	5	10	15	20	25	Freq.	Cumulative Freq.	%
Capitalization	xxxxxxxxxxxxxxxx					16	16	7.41
Double letters	xxxx					4	20	9.26
Formatting	xx					2	22	10.19
Omitting letters	xxxxxx					6	28	12.96
Punctuation	xxxxxxxxxx					10	38	17.59
Spacing	xxxxxx					6	44	20.37
Spelling	xxxx					4	48	22.22

Frequency distributions can be developed and stored as computer spreadsheet applications. An example of the information shown above generated from a spreadsheet program appears below:

Error	Frequency	Cumulative Frequency	Percentage
Capitalization	16	16	7.41%
Double letters	4	20	9.26%
Formatting	2	22	10.19%
Omitting letters	6	28	12.96%
Punctuation	10	38	17.59%
Spacing	6	44	20.37%
Spelling	4	48	22.22%

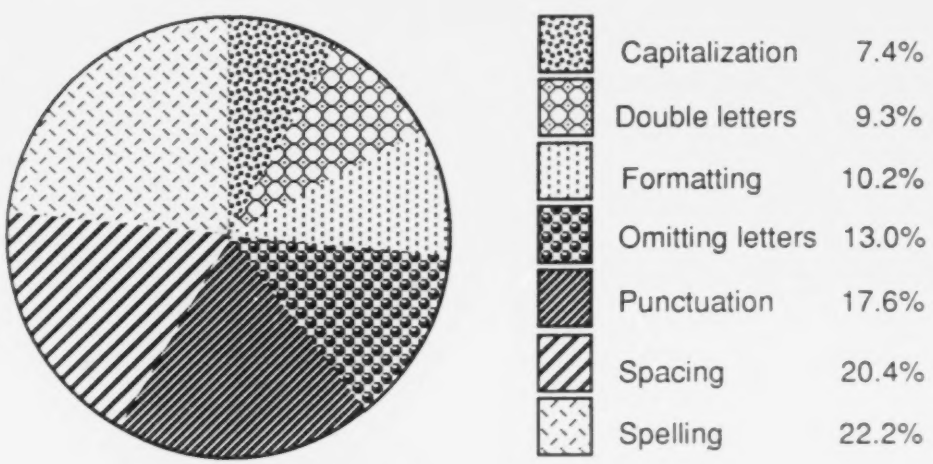
Gathering detailed data that goes beyond merely tabulating the number of occurrences requires the use of questionnaires or interviews. For example, one might use a questionnaire or interview to identify problems related to low attendance at the weekly departmental meeting. These methods could also be effectively used to gather information needed to develop departmental goals, or to determine the possible causes for the errors made by the clerk in the word processing department.

GRAPHIC SOLUTIONS (CHARTS AND GRAPHS)

When presenting data to other interested parties, it is sometimes advantageous to create a visual display in the form of a chart or graph. Some of the options available include a pie chart, bar chart, or run chart.

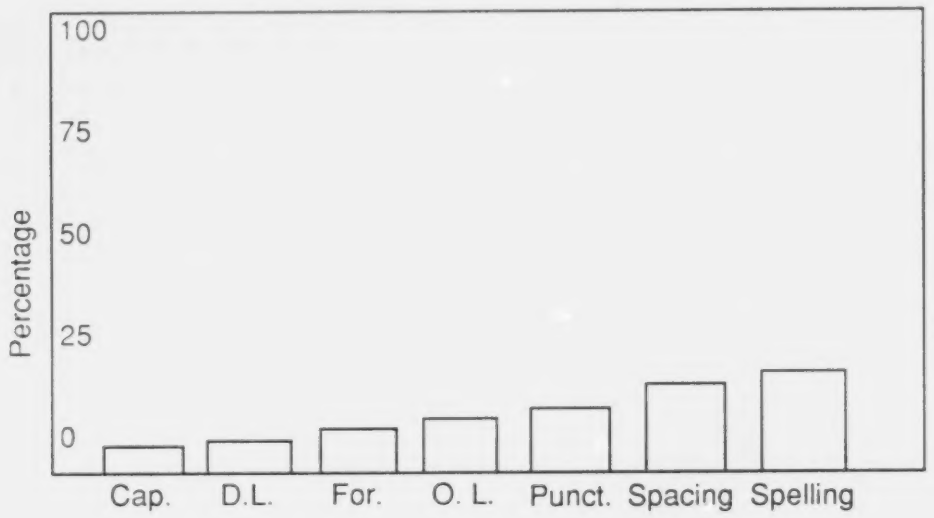
Pie Chart

A pie chart is simply a circle divided into parts that are sized to represent various problems or aspects. The pie chart can be drawn by hand or produced on a computer with a spreadsheet or graphing program. The pie chart below was created from the spreadsheet example of the errors made by the word processing clerk.

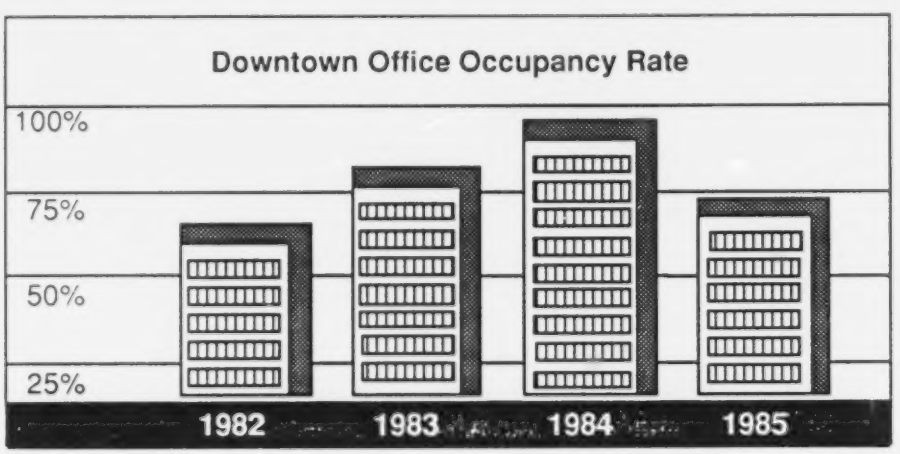


Bar Chart

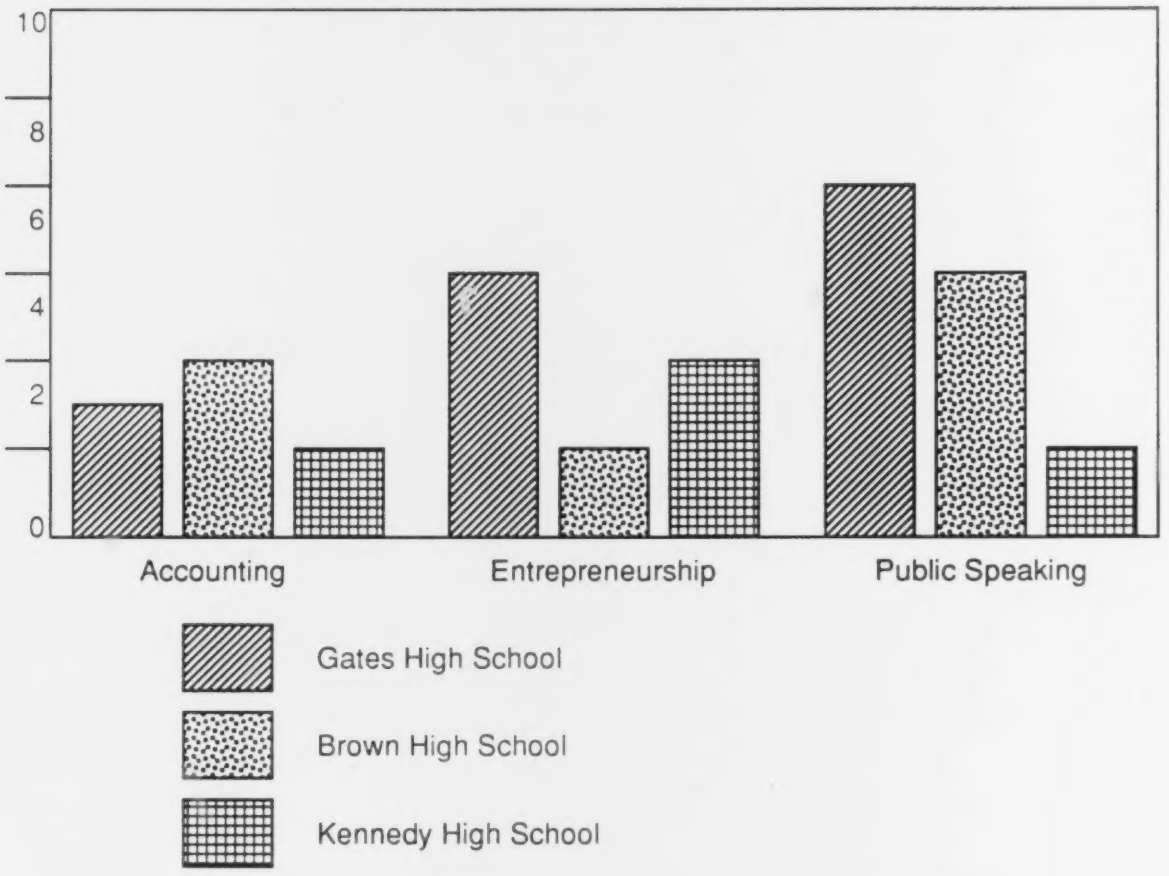
A bar chart is another way of visually displaying information. The same information regarding the errors made by the word processing clerk appears below:



Bar charts can be designed with graphics that communicate your message in a very attractive manner like the example below showing the downtown office occupancy rate.



Bar charts are even more effective when used to compare one period in time with another like the chart below comparing FBLA district award winners in three high school districts.



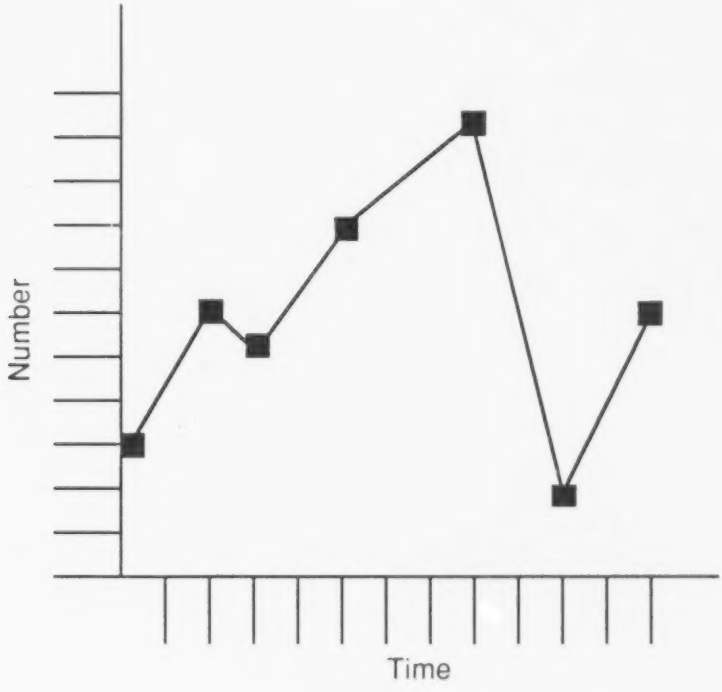
DATA ANALYSIS

Once the necessary data for solving a problem has been gathered, it can be used in one of several ways to analyze problems and find solutions. By choosing an appropriate type of visual display, the collected data can help determine where the problem solver might want to concentrate her/his efforts. Some of the ways to display data include a run chart, a fishbone, a scatter diagram, or a flow chart.

Run Charts

A run chart shows a time plot of events that illustrate the level of operations and how that level varies.

Performance Trend

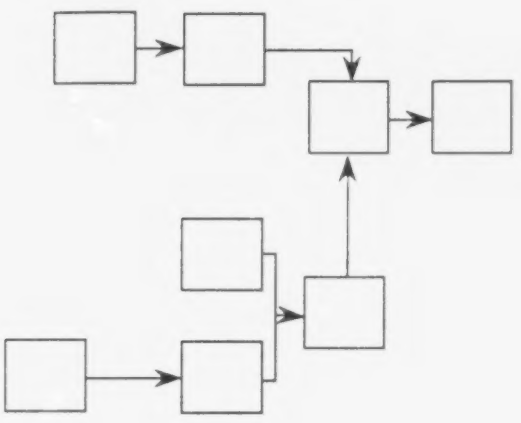


Run charts should cause one to think about the system and constantly ask questions:

- *What's going on ?*
- *Do I like the level; if not, what should be done?*
- *Are things getting better?*
- *Has anything changed?*
- *Do I like the change?*
- *Is the change what I tried to do?*
- *Are there any trends showing up?*
- *What should I do with the information on this chart?*

Flow Chart

A flow chart is used to identify all the steps of a process and the order in which the steps occur. It can provide a closer look at a process and can help detect the need for some obvious changes. For example, one might prepare a flow chart of the process used to identify and correct keyboarding errors. By doing so, recommendations could be made for modifying the process to result in a higher level of proficiency.



When preparing a flow chart, boundaries should be defined, such as the starting and ending points and the level of detail. Flow charts should be kept as simple and consistent as possible, using conventional symbols so everyone can understand them.

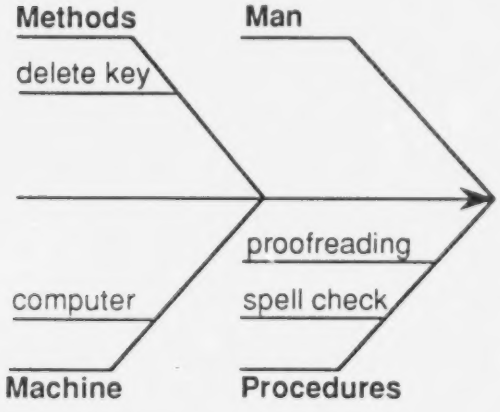
CAUSE AND EFFECT

When solving problems in business, it is sometimes necessary to link cause and effect relationships by identifying in detail a potential contributing causes with a particular result (effect). Some major categories a problem solver might use include, but are not limited to the following:

5 M's	6 P's
Manpower	*People*
Materials	*Practice*
Methods	*Procedure*
Machinery	*Policies*
Minutes	*Paperwork*
	Philosophies

Fishbone

A "fishbone" is an organized way of generating ideas, categorizing those ideas, and focusing on the most important ones.



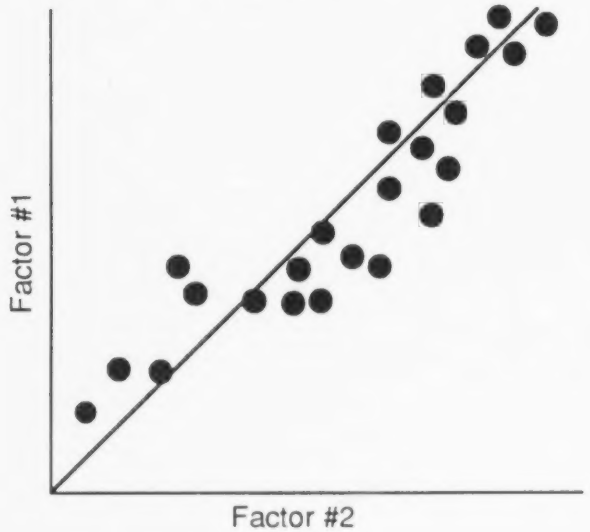
Key Points

- Effect should be clearly defined
- Brainstorm all possible causes
- Group major causes
- Identify the most important causes

Scatter Diagram

A scatter diagram may illustrate a relationship between two variables linking cause and effect, or a relationship between two or more potential causes. For example, a scatter diagram could show the relationship of the weight of a car to its mileage, or the cleanliness of a hotel room to the hotel's training program, or the attitude of employees to productivity, or the relationship of keyboarding errors to the time of day.

Correlation



GROUP DYNAMICS

When solving problems in the work setting, it is important to seek ideas and opinions from group members who will be affected by the solution. Methods of obtaining individual input may include using a questionnaire or conducting a one-on-one interview. In some instances it may be advantageous to work with a few people simultaneously so that the dynamics of the group enter into the problem-solving process. Two methods of structured group interaction include the 3-2-1 technique and the storyboard technique.

3-2-1

One recommended technique for including a number of people in a simple data gathering process is the 3-2-1 process. Participants are placed in small groups and given a 3-2-1 assignment to complete as a group. This means that the group identifies 3 positive statements, 2 statements of concern, and 1 recommendation for improvement. The small group then take turns reporting to the large group while designated recorders document each group's "3-2-1." The "1s" are then discussed and voted on to determine priorities. For example, if asked to determine the departmental goals for the coming fiscal year, the process might look something like this:

1. *Divide the 15 department members into five groups of three.*
2. *Ask each group of three to develop the following:*
   - *3 positive statements regarding the work accomplished by the department*
   - *2 concerns the group has concerning the work of the department*
   - *1 recommended goal for improving the work of the department*

3. *Each small group then reports to the large group while recorders keep track of the "3-2-1s."*

4. *A discussion is conducted regarding the "1s."*

5. *All department members vote for two goals they consider to be top priorities. The two goals receiving the highest number of votes are adopted as the group's goals.*

The "3-2-1s" can be adapted to any situation. Remember that it is always best to start with three positive statements followed by two concerns and one recommendation.

Storyboarding

When working with a group of people, one way to analyze the probable causes of a problem is to use a storyboard technique.

Participants and Their Roles

- *Experienced leader - guides the discussion; provides idea-generating questions; breaks ties*
- *Pinner - puts cards on board or wall*
- *Writers (everyone else in the group) - generate ideas; write them on cards*

Procedure

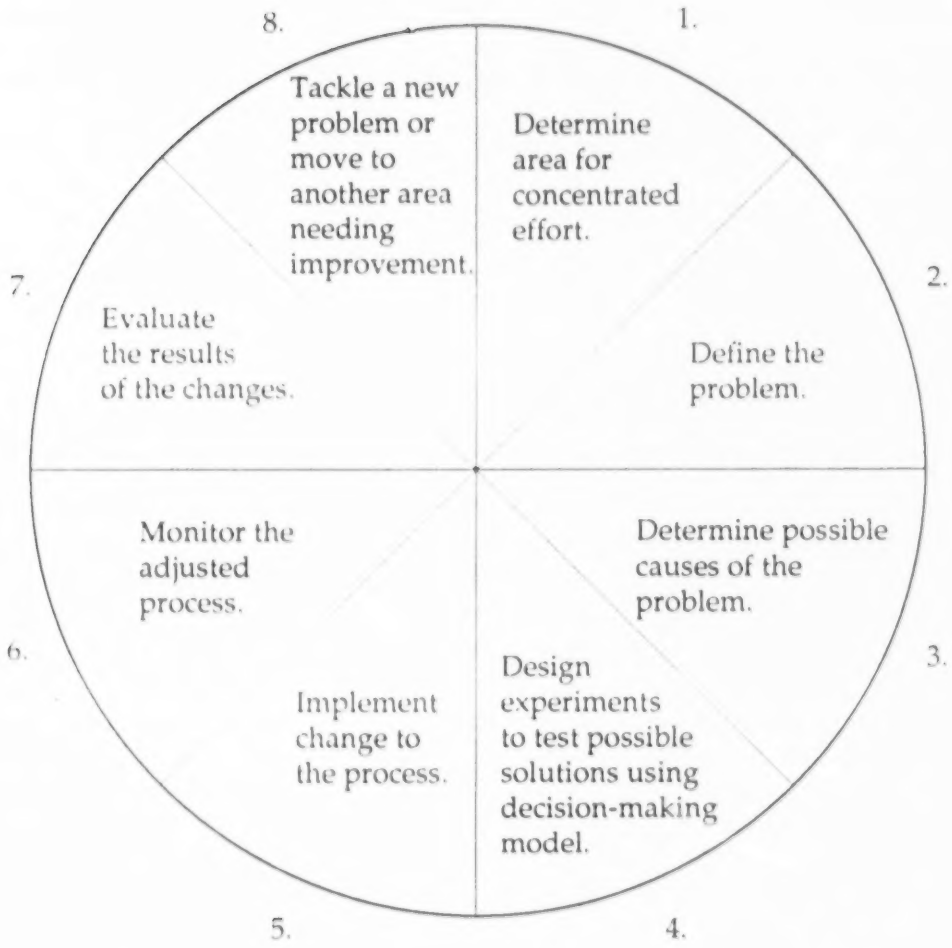
1. *Place a piece of paper with the problem statement printed on it on the wall (attach with tape or poster putty to the wall surface, or pin it to a bulletin board).*

2. *Ask the group to agree on the major categories of variables that might contribute to the problem (e.g., manpower, materials, methods, machinery, minutes, people, practices, procedures, policies, paperwork, philosophies, etc.), then write the categories on paper and attach them to the wall.*

3. *Members of the group are then asked to write possible problem causes on 3-by-5 inch cards (one idea per card).*

4. *The leader then facilitates group discussion of each major category. As the discussion progresses from category to category, group members are allowed to post their cards under the appropriate category. The category with the most cards deserves the most attention in the problem-solving process.*

Business Problem-Solving Procedure



STEPS IN THE BUSINESS PROBLEM-SOLVING PROCEDURE

1. **Determine the area for concentrated effort.** *When solving problems in the business arena, it is not practical to try to solve all problems at once. The first step is to choose the most important one--the problem having the greatest impact. Included in this first step is the act of collecting and displaying data. Some appropriate data collection tools include a tally sheet, a frequency distribution chart, questionnaires, interviews, or observations. Methods of displaying data include a pie chart, bar chart, or written report summarizing the findings gathered from questionnaires, interviews, or observations.*

2. **Define the problem.** *It is desirable for the problem statement to be as clear, concise, and specific as possible. At this stage, the problem definition should not place blame; nor should it suggest solutions.*

3. **Determine possible causes of the problem.** *Some techniques to choose from at this stage include the development of a flow chart to analyze the process and pinpoint areas in need change. The fishbone or scatter diagram could also be used to illustrate cause and effect. When working with groups of people, the storyboard technique or the 3-2-1 process is useful to structure the group interaction.*

4. **Design experiments to test possible solutions using the decision-making model.** *Quite often there are a number of suggested remedies for a problem; however, until a suggestion is tested, it is only a theory. Before any major changes are made in a process, there must be evidence that the proposed changes have a strong likelihood of solving the problem. Depending on the nature of the problem, testing procedures can*

be very complicated and require special training. One technique that can be employed without the need for special training, is the decision-making matrix. The matrix is constructed with possible solutions appearing along the horizontal axis and the criteria for measuring each solution listed on the vertical axis. By rank ordering the point values assigned to the various solutions as they are weighed against each criterion, you can determine the first solution to test. (For a more detailed explanation of how to develop a decision-making matrix, refer to the section on decision making.)

An alternative to the decision-making matrix is to generate a list of the pros and cons of each possible solution. When possible, use a group of people to brainstorm the pros and cons to allow for a variety of viewpoints.

	SOLUTION A	*SOLUTION B*	*SOLUTION C*
PROS			
CONS			

5. **Implement change to the process.** *When an experiment or analysis has indicated that a particular change would probably solve the problem, then the change should be implemented. All those affected by the change must be informed of the change, must understand the change, and must know what to expect as a result of it. If necessary, appropriate training should be made.*

6. **Monitor the adjusted process.** *Both the worker(s) affected by the change and the supervisor attempting to implement it are responsible for making sure that the adjusted process is fully functional. All parties should understand that the production of work may drop initially, but then gradually increase as the changed process becomes more automatic. If the plan of implementation fails, ask yourself the following questions to help find the weaknesses:*

- *Why did the problem occur in the first place?*
- *Has the problem been accurately and clearly defined?*
- *Is the adjusted process being tested realistically?*
- *Has the plan of implementation been analyzed for flaws?*
- *Have accurate and detailed records of progress been kept?*

After answering these questions, the solution should become apparent. It may also become necessary to re-enter the problem-solving procedure at the appropriate step and cycle through the entire process again.

7. **Evaluate the results of the change.** *For the purpose of evaluation, it is helpful to use the same techniques that were applied in Step 1 in gathering the initial data. Use a tally sheet, frequency distribution chart, questionnaires, interviews, or observations as you did before. Then create new data displays in the form of a pie chart, bar chart, or written report which summarizes your findings. By comparing the outcome with the initial data, the results of the change can be accurately evaluated.*

8. **Tackle a new problem or move to another area needing improvement.** *The circle of problem solving is never ending. At this point, one of two things can be pursued: a new problem demanding immediate attention, or the next related problem identified in the decision-making matrix in Step 4.*

BUSINESS PROBLEM-SOLVING SITUATIONS

Apply the steps in the business problem-solving method to the following situations. Situations 1, 2, and 3 require some understanding of office procedures; Situations 4 and 5 require a working knowledge of computer technology; Situation 6 requires some knowledge of investments.

Situation 1: *Mary works as a receptionist for a small insurance firm. Her major job responsibilities include: 1) answering and transferring incoming telephone calls; 2) greeting visitors and directing them to the proper location; 3) opening and sorting incoming mail; 4) typing routine work from various departments when there is an overload. Mary's supervisor, Mr. Hawkins, is often out of the office calling on potential customers. Many times he is unavailable to advise Mary or to answer her questions. There are five secretaries in the office who work for eight agents and Mr. Hawkins. Today Mr. Roy, a valued customer, telephoned his agent to talk about an important insurance claim. It became necessary for Mary to put Mr. Roy on hold while she greeted an office visitor and directed her to the appropriate place. In the meantime several other calls came in and Mary completely forgot that Mr. Roy was holding on the other line. Mr. Roy grew impatient and hung up. He then called back and complained bitterly to Mary about being neglected, and angrily threatened to take his business elsewhere. Mary is aware of the fact that Mr. Roy complained to his agent about the incident, and his agent will undoubtedly tell Mr. Hawkins. Assume that you are Mary and you prefer to work on a plan to solve this problem (which happens frequently) prior to meeting with Mr. Hawkins. Develop a recommendation for adjusting your responsibilities that would reasonably*

assure that the needs of important customers would not be put off while other assigned tasks are being completed.

Situation 2: *Steve Bick, office manager at the Matthews Business Machines Corporation, has been asked to investigate the feasibility of requiring all departments in the corporation to buy only recycled paper products. The president of the corporation, Joyce Matthews, strongly supports ecology measures. Steve finds that recycled paper is more expensive than the paper the company is presently using and must weigh cost against environmental issues. Assume that you are Steve and develop a recommendation to Ms. Matthews.*

Situation 3: *Donna Helms, a new employee in the Accounting Department of Huss, Inc., has developed a habit of going directly to Frank Henner, Director of Accounting, to resolve problems, seek information, or offer new ideas and suggestions. This practice completely by-passes her immediate supervisor, Karen Rigdon, who is responsible for evaluating Donna's performance. Assume the role of Karen Rigdon and determine how you intend to resolve this conflict which violates the company's chain of command policy.*

Situation 4: *Your business currently leases a network of Macintosh computers for the publications department. Other departments within the company use IBM personal computers for all of their needs. Your boss wants you to evaluate whether the publications department should keep using Macintosh computers or if the employees working in publications should be trained to use IBM computers like the rest of the company. The lease ends six months from today and you must decide on and justify the*

purchase of either the IBM network or Macintosh network for the publications department. In making your decision you must consider these additional factors: 1) The Macintosh network supports a "publishing atmosphere" very well. 2) The IBM computers, along with OS2 (a new operating system), have been "documented" (by articles, other companies, etc.) to handle publishing "as well as" the Macintosh with increased speed in processing. 3) All existing files in the publications department were created on the Macintosh and, should you decide to purchase the IBM computers, will have to be converted for use on the IBM system. 4) Currently, there is little "in-house" support for a company-wide Macintosh network because the majority of employees in the company use IBM computers and IBM-compatible software. 5) Regardless of which system you choose, publications department personnel will need training. More training will be required for the IBM system than the Macintosh because publications department computer users must learn to use both a new computer system and the software used on that system. If, on the other hand, you choose to keep the Macintosh, employees in the publications department would need only to learn the new software applications. 6) Publications department personnel seem to like the Macintosh environment; however, the system at times is very slow.

Situation 5: *Your business has several executive secretaries on staff who handle confidential material on a routine basis. They will soon be using the company's IBM computer network, and you must establish a method of maintaining the confidentiality of their documents. Several factors make the storing and processing of confidential documents on the computer network difficult: 1) If the files are stored on the network,*

certain individuals who maintain the network have unlimited access to all files. 2) If the documents are printed on the company's shared laser printers now located in a central area, anyone could pick up and read a document from the printer. Be ready to establish and justify your decisions based on maximum confidentiality as well as cost (printers, storage devices, etc.). Present several alternatives.

NOTE: The advantage of storing documents in locations other than the network (e.g., hard drives, diskettes) is that they cannot be accessed by other users on the network; the disadvantage is that they must be backed up by the individual on a routine basis (network files are backed up automatically on a daily basis).

Situation 6: *You have the opportunity to present a strategy for investing $50,000 of your company's profits. Based upon current economic conditions, how would you diversify this investment to incorporate excellent security and considerable total return on the investment? Your company endorses the following investments: treasury bills, treasury notes, common stock mutual funds, bond funds, money market funds, global funds, and individual stock and bond investments. Establish a portfolio of investment strategies to present to the board of directors. Present several portfolio options.*

NOTE: For investments in general, the higher the total return, the riskier the investment is; likewise, the more stable (or "guaranteed") the investment is, the lower the total return usually is.

EVALUATION SHEET

Business Problem-Solving Checklist

Directions: *Place an "X" in the appropriate box: Not Applicable, No, Incomplete, or Yes*

The student/group was able to:	N/A	No	Inc.	Yes
1. Determine area for concentrated effort.				
2. Define the problem.				
3. Determine possible causes of the problem.				
4. Design experiments to test possible solutions using the decision-making model				
5. Implement change to the process.				
6. Monitor the adjusted process.				
7. Evaluate the results of the changes.				
8. Tackle a new problem or move to another area needing improvement.				

Notes:

All steps should receive either "Yes" or "N/A." Steps receiving otherwise should be repeated until they are satisfactory.

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